

has recently¹⁴ described some important experiments and measures; but his apparatus was of such a kind that the comparison of the results with the Coulombian theory was not easy; and indeed the mathematical problems which Mr. Harris's combinations offered, require another Poisson for their solution. Still the more obvious results are such as agree with the theory, even in the cases in which their author considered them to be inexplicable. For example, he found that by doubling the quantity of electricity of a conductor, it attracted a body with four times the force; but the body not being insulated, would have its electricity also doubled by induction, and thus the fact was what the theory required.

Though it is thus highly probable that the Coulombian theory of electricity (or the *Æpinian*, which is mathematically equivalent) will stand as a true representation of the law of the elementary actions, we must yet allow that it has not received that complete evidence, by means of experiments and calculations added to those of its founders, which the precedents of other permanent sciences have led us to look for. The experiments of Coulomb, which he used in the establishment of the theory, were not very numerous, and they were limited to a peculiar form of bodies, namely spheres. In order to form the proper *sequel* to the promulgation of this theory, to give a full *confirmation*, and to ensure its general *reception*, we ought to have experiments more numerous and more varied (such as those of Mr. Harris are) shown to agree in all respects with results calculated from the theory. This would, as we have said, be a task of labor and difficulty; but the person who shall execute it will deserve to be considered as one of the real founders of the true doctrine of electricity. To show that the coincidence between theory and observation, which has already been proved for spherical conductors, obtains also for bodies of other forms, will be a step in electricity analogous to what was done in astronomy, when it was shown that the law of gravitation applied to comets as well as to planets.

But although we consider the views of *Æpinus* or Coulomb in a very high degree probable as a *formal theory*, the question is very different when we come to examine them as a *physical theory*;—that is, when we inquire whether there really is a material electric fluid or fluids.

Question of One or Two Fluids.—In the first place as to the question whether the fluids are one or two;—Coulomb's introduction of

¹⁴ *Phil. Trans.* 1834, p. 2.